

CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA



Twentieth meeting of the Plants Committee
Dublin (Ireland), 22-30 March 2012

Periodic Review of plant species included in the CITES Appendices

REPORT OF THE WORKING GROUP

1. This document has been submitted by the Scientific Authority of Mexico^{*}.

Introduction

2. At its 14th meeting (CoP14, The Hague, 2007), the Conference of the Parties adopted Resolution [Conf. 14.8](#) on *Periodic Review of the Appendices*, where it agrees that the Animals and Plants Committees shall establish a schedule for the Periodic Review of the Appendices and identify a list of taxa they propose to review during the next two intersessional periods between meetings of the Conference of the Parties. The list should be established at their first meeting after the meeting of the Conference of the Parties that initiates the review period.

Background

3. During the 19th meeting of the Plants Committee (PC19, Geneva, 2011), the Chair of the Working Group on the Periodic Review submitted document [PC19 Doc. 13.2](#) on *Selection of species for review following CoP15*, which presented the species proposed for review during the intersessional periods between CoP15 and CoP17.
4. At the same meeting, the Plants Committee established a working group (PC19 WG09) to consider the proposals made in document PC19 Doc. 13.2, among others. The Committee reviewed the conclusions reached by the Working Group, agreeing to the following:
 - a) A new list of species to be reviewed between CoP15 and CoP17 (see Table 1):

Table 1. Species selected for periodic review between CoP15 and CoP17, with their range States.

Family	Species	Range States
Apocynaceae	<i>Pachypodium brevicaule</i>	Madagascar
Crassulaceae	<i>Dudleya stolonifera</i>	United States
Portulacaceae	<i>Lewisia serrata</i>	United States

^{*} *The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CITES Secretariat or the United Nations Environment Programme concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers or boundaries. The responsibility for the contents of the document rests exclusively with its author.*

- b) The inclusion in the new list of species of those that had been selected between CoP13 (Bangkok, 2004) and CoP15 (Doha, 2010) and whose review was still pending (see Table 2).

Table 2. Species selected between CoP13 (2004) and CoP15 (2010) which should be reviewed during the period between CoP15 (2010) and CoP17 (2016).

Family	Species	Range States
Bromeliaceae	<i>Tillandsia kammii</i>	Honduras
Bromeliaceae	<i>Tillandsia mauryana</i>	Mexico
Dioscoreaceae	<i>Dioscorea deltoidea</i>	Afghanistan, Bhutan, Cambodia, China, India, Lao People's Democratic Republic, Nepal and Viet Nam
Zingiberaceae	<i>Hedychium philippinense</i>	Philippines
Cycadaceae	<i>Cycas beddomei</i>	India

- c) A request, in line with the content of paragraph e) of Resolution Conf. 14.8, to the Secretariat to issue a Notification to the Parties, transmitting a copy of the proposed list of taxa to be reviewed in the period between CoP15 and CoP17, and requesting the range States of the species to comment within 90 days on the need to review the taxa and to express their interest in undertaking the reviews.
- d) A request to the Secretariat to send a Notification to the range States requesting information on the status of trade in the following taxa, which are included in Appendix I and which, in the period 1998-2008, were recorded in international trade for commercial purposes: ([PC19 Doc. 13.2](#)), in contravention of the provisions of Article III of the Convention: *Encephalartos* spp., *Aloe polyphylla*, *Saussurea costus* and *Fitzroya cupressoides*.

Progress and activities

5. The lists of species were submitted for the consideration of the Parties on 21 September 2011, by way of Notification [No. 2011/038](#) (*Periodic review of species included in the CITES Appendices, Annex 3*), requesting responses by 20 December 2011. At the time of writing the present report, no response had been received expressing disagreement, nor had any proposal been received to include any other species in the list.
6. With respect to subparagraph d) above, the Secretariat clarified that the Notification requested by the Working Group on the Periodic Review would not be sent, because such a request was beyond the Group's remit. In consequence, the Secretariat would request the relevant information.
7. To date, the reviews of some of the species on the list have progressed as follows:
- México has started the project "Evaluation of the conservation status of and trade in *Tillandsia mauryana*, listed in CITES Appendix II", with preliminary results expected in 2013;
 - The United States has undertaken to carry out the review of the species *Dudleya stolonifera* and *Lewisia serrata*; and
 - The Netherlands has presented a report on the review of *Cycas beddomei*, which is submitted for the consideration of the members of the Plants Committee (Annex 1).
8. Pursuant to document [PC19 Doc. 13.3](#), it is anticipated that the United States will present the review of the genus *Sclerocactus* (which includes 35 species), at this meeting of the Committee (PC20).
9. Annex 2 of the present document lists the members of the Working Group on the Periodic Review.

Recommendations to the Committee

10. In accordance with Resolution Conf. 14.8 the Plants Committee is invited to adopt the list of species to be examined under the periodic review between CoP15 and CoP17 and to submit it to the Standing Committee at its next meeting (SC62, Geneva, July 2012).

11. The Committee is recommended to consider the report submitted by the Netherlands regarding the periodic review of *Cycas beddomei*, and the Party's recommendation to retain the species in Appendix I.

Meeting of the Plants Committee
(Ireland), 2012

Review of the Appendices

Progress report

Review of *Cycas beddomei*

Introduction

The genus *Cycas* is mostly found in (sub)tropical areas all over the world. The species *Cycas beddomei* Dyer, the species under review, is only encountered in a (very) restricted area in India. A simple list including all items of interest for the revision of the species for the Cites Appendices is given in the 'General conclusions by the reviewer'.

The genus *Cycas* is the only genus in the family Cycadaceae; in this genus, and thus in the family, about 100 species are found. One of the species is *Cycas beddomei*, a quite rare species and placed in App. I.

General information about *Cycas beddomei*

Cycas beddomei is an endemic species of the Tirupati-Kadapa hills in Andhra Pradesh, India, and is listed in App. I. The species, bearing local names as 'Peritha' (Pareetha), 'Perita', 'Per ita', 'Konda itha' (Kondaitha) or 'Madanakamakshi' (Madhana-kamakshii), is a quite small Cycad tree with a trunk up to 1,5m. Like all species of *Cycas*, this species is dioecious. That is, there are separate male and female plants. Plants of separate sexes are easily distinguished by their growth form. Moreover, male plants grow in clumps together whilst female plants grow more isolated. The plants have pale green leaves up to 1m long, with narrow, linear leaflets that are up to 18cm long and 3.5 mm broad. The male plants bear oblong to ovoid cones that are generally not more than 35cm long and 16cm wide. The ovule-bearing leaves (megasporophylls) of the female plants are up to 4x2cm.

The species grows at 200-1150m above sea level in an area where temperature varies from ca. 18°C-37°C and annual rainfall is between 570-1230mm. The species mostly grows in dry deciduous mixed woods with patches of a moist deciduous wood type; therefore the plant is generally found on dry, open hill slopes, in open grassy woodland or grassland. Rao et al. (2009) mention that the dominant tree species in this woodland include a.o. *Buchanania axillaris*, *Gardenia gummifera*, *Pterocarpus santalinus* and *Terminalia alata*.

The plant is susceptible to the frequent grassfires at which it is exposed. Although it recovers well after fire, reproduction is effectively blocked because seeds and seedlings are burnt in the process. Another, and even more significant impediment to reproduction, is the use of the male cones in Ayer Veda medicines. Villagers earn a few rupees by scouring the hills for young cones to be used in medicine, removing the cones from the male plants before the pollen is shed.

Inclusion of *Cycas beddomei* in Appendix 1

This species of *Cycas* has been the only species included in Appendix I, whilst the other species in the genus are all found in Appendix II. *C. beddomei* was listed on App. I because the species was assessed as Critically Endangered. This judgment was based on the fact that the species had been classified as such by one of the reviewers. However, later population studies revealed (e.g. in 2009) a wider distribution of the species than accepted before that moment.

This review

This *Cycas* species is one of the least known of the Indian species of *Cycas*; it is found in only two small dry hill areas. In nearby areas *C. circinalis* is found, occurring in reasonable numbers, but it seems that nowhere the two species occur together. Natural hybrids between the two species are not known. *Cycas beddomei* is quite rare in private and public gardens. The scarcity of *C. beddomei* in collections and thus the lack of cultivation make it quite difficult to assess its horticultural requirements. The species can (easily) be distinguished of other *Cycas* species by its very narrow leaflets with revolute margins. Another distinctive feature is the layer of fleshy

material between the sarcotesta (the fleshy outer seedcoat) and the sclerotesta (for *Cycas* the middle bony seedcoat), thought to aid the seed providing it with a source of fresh watery material.

The species was originally listed as Vulnerable in the Indian Red Data book (Nayar and Sastry, 1987), later re-evaluated as Critically Endangered by Jadhav et al. (2001), and some years later, according to discussions in available literature, classified as Endangered.

A recent study (Rao et al., 2009) made it clear that the area of occupancy and the extent of occurrence are small indeed, but quite a bit larger than what had been estimated earlier. The extent of occurrence, Rao et al. estimated, is slightly smaller than 400km², and the area of occupancy is about 20km², whilst population size seems to be between 20.000- 30.000 individuals. Earlier estimations indicated a size of less than 1000 mature individuals (Kotwal, Dugaya & Jadhav, 2001). This means that, as far as is clear now, there is a minimal risk that could be attributed to population size. Nevertheless, it is clear as well that the population is actually declining (Rao, Suresh Babu, Sadasivaih, Khadar Basha & Ganeshaiyah, 2009); this is due to both local use and the frequency of fires. The extent of decline is difficult to be established; as Donaldson and Bösenberg (IUCN Red List assessment) state, the historical status appears to have underestimated the actual extent and size of the population, as mentioned above.

The data available now regarding the extent of occurrence and the area of occupancy indicate that this species would classify as Endangered and not Critically Endangered in criterion B for the IUCN criteria. This was, indeed, the assessment by Donaldson and Bösenberg (2009), who evaluated the species according to IUCN criteria, as Endangered: B1ab (i,ii,iii,iv,v) + 2ab (i,ii,iii,iv,v). A check against the Cites criteria corroborates that the species qualifies for the Endangered status.

General conclusions by the reviewer

1. *Cycas beddomei* is Endangered, but for the moment not threatened with extinction
2. The species is not Endangered by (international) trade, but (mainly) by local use and local fires
3. The (wild) population of the species has a quite restricted area of distribution and a. occurs at very few locations, b. is quite vulnerable due to the way the species is used, c. there is a clear and strong decrease in the reproductive potential.
4. There is a decline in the number of individuals, due to a. the level of exploitation and, thereby b. a decreasing reproductive potential.
5. Because of the above, in 1 to 4, *Cycas beddomei* should be maintained in Appendix 1.

Literature used in this review

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